

# **Executive Summary**

## **Proposal**

On February 11, 2002, Rainy River Energy Corporation – Wisconsin (Rainy River) a wholesale merchant power plant developer, filed an application at the Commission for a Certificate of Public Convenience and Necessity (CPCN) under Wis. Stat. § 196.491(3) and Wis. Admin. Code ch. PSC 111, to construct and operate a large generating facility and associated high voltage transmission, natural gas, and water facilities in the Superior area. An amendment to the application was later filed on April 3, 2002. On May 3, 2002, the Commission informed Rainy River that the application was complete. The project is referred to as the Superior Generation Project.

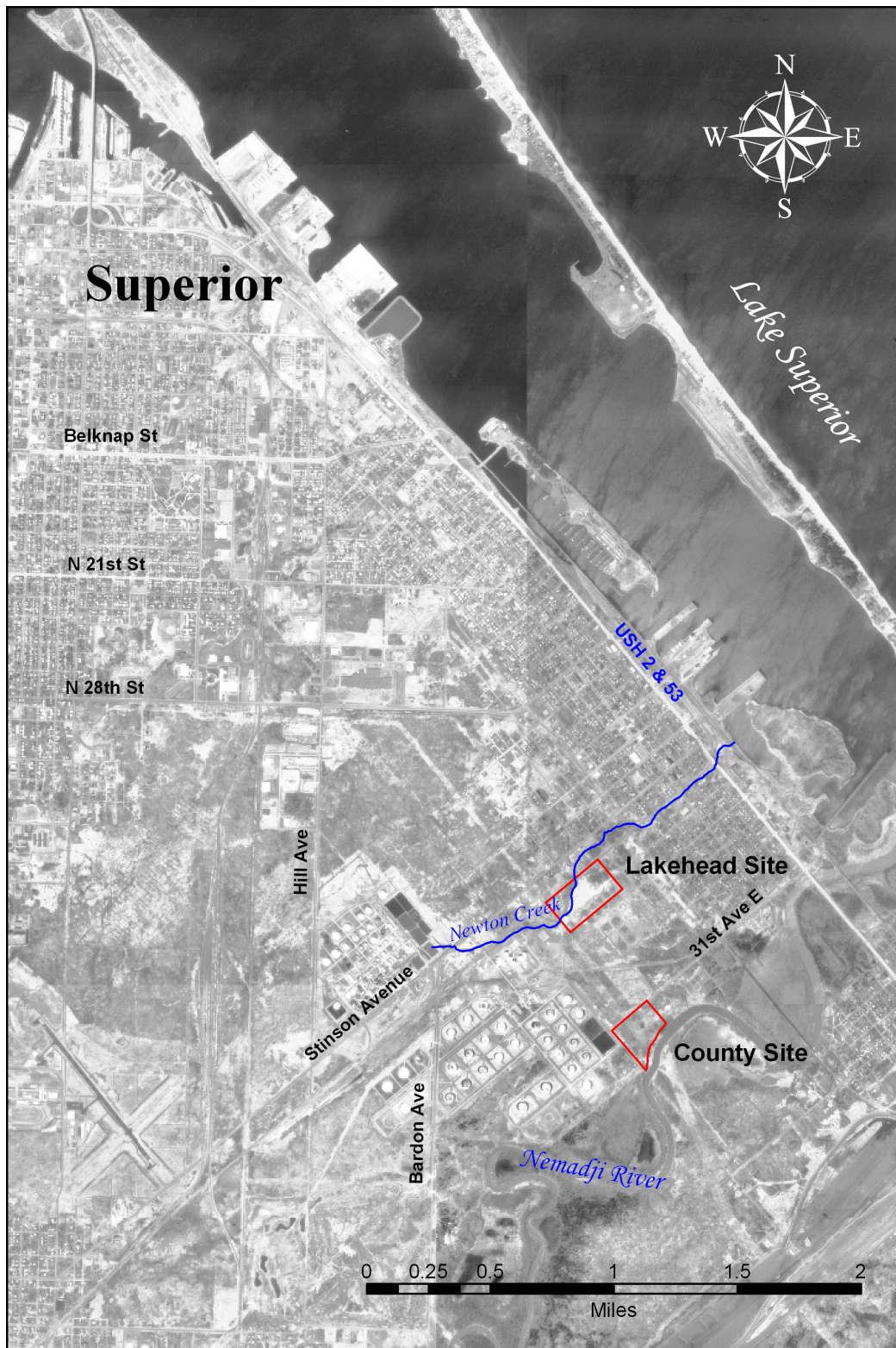
Rainy River and Superior Water, Light and Power Company (SWL&P) are wholly owned subsidiaries of Minnesota Power, based in Duluth, Minnesota. Minnesota Power's parent company is Allete, Inc., also located in Duluth.

The new facility would be operated as a merchant plant as defined in Wisconsin Act 204, the Electric Reliability Act, which legalized the development of wholesale merchant plants in the state. Rainy River would sell electric power generated by the plant at market-based rates to investor-owned utilities, cooperative utilities, power marketers, and other purchasers for resale in Wisconsin and throughout the Midwest region. At this time, Rainy River has no pre-existing power purchase arrangements with public utilities.

## **Project Location**

Rainy River has proposed that the power plant be located on one of two sites in the city of Superior: the County Site or the Lakehead Site (see Figures 1 and 2). The County Site is a 20-acre parcel located in the city of Superior, and is bordered by Douglas County land and the Nemadji Cemetery on to the northeast, the Nemadji River to the southeast, East 18<sup>th</sup> Street (Grand Avenue) to the southwest, and 31<sup>st</sup> Avenue East to the northwest. The Lakehead Site is a 27-acre parcel located adjacent to East 11<sup>th</sup> Street to the northeast, is bordered by Enbridge Energy Partners (Lakehead Pipeline Company) property to the southeast, the Dome Petroleum Natural Gas Liquids Refinery to the southwest, and is adjacent to Stinson Avenue to the northwest.

Figure 1 General location map



## **Project Description**

As proposed by Rainy River, either alternative site would have one natural gas-fired simple-cycle combustion turbine capable of producing 170 megawatts (MW) of power. There would be one exhaust stack, a minimum of 130 feet in height. This peaking unit would be able to operate on natural gas, which would be supplied through an existing natural gas pipeline owned by SWL&P. There would be no alternate fuel. If the Lakehead Site is selected, a new natural gas pipeline about 700 feet in length would be constructed.

Water for plant operation would be supplied by SWL&P from its existing water supply system through a new main extension. The new water main facilities would be paid for by Rainy River as part of the cost of the new facility.

Existing 115- and 161-kilovolt (kV) electric transmission lines cross the County Site and are located adjacent to the Lakehead Site (see Figure 2). If the County Site were approved, a new 115 kV transmission line approximately 3,390 feet in length would be constructed from the site to the existing SWL&P Stinson Substation. If the Lakehead Site is selected, a new 115 kV transmission line approximately 1,030 feet in length would be constructed from the site to the Stinson Substation.

Although Rainy River is not applying for authority to do so now, it may expand the site to combined-cycle operation in the future. The possible expansion would increase generating capacity of the plant to about 315 MW. Rainy River would need to apply to the Commission for authority to proceed with such an expansion. Some major implications of expansion of the plant to combined-cycle operation include:

- More hours of plant operation
- Stricter air pollution control requirements
- Greater water use
- Need to discharge wastewater to the city of Superior wastewater treatment system or the Nemadji River.

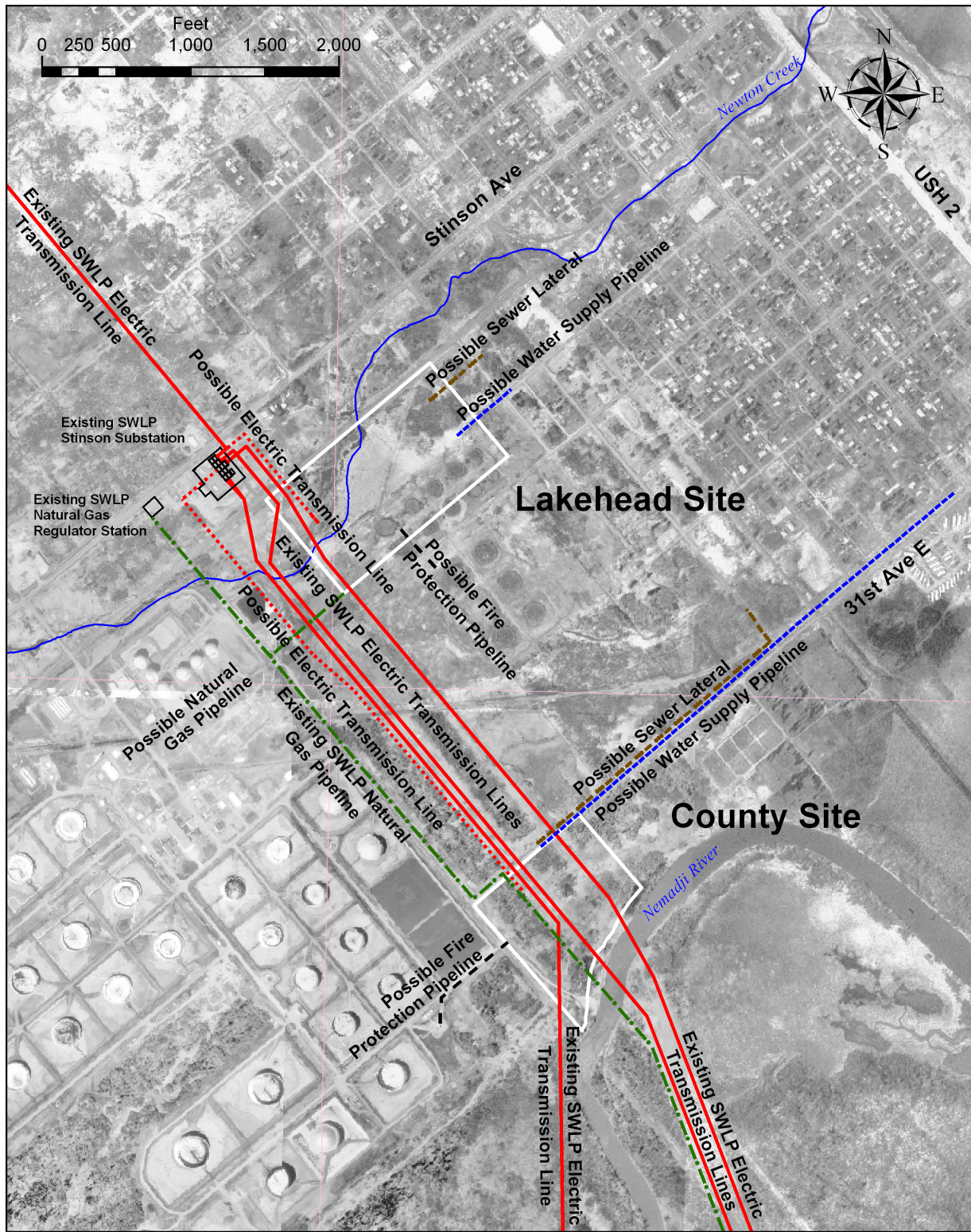
## **Environmental Issues**

### **Air**

Rainy River has applied for an air pollution control permit for the County Site only. However, the two sites are close enough geographically and would have similar enough equipment that the conclusions drawn for the County Site using data modeling would also be applicable to the Lakehead Site. The modeling predicts that, with the power plant and the Best Available Control Technologies (BACT) implemented, either site would not cause exceedances of air quality standards in the area. The facility would not be a major source of hazardous air pollutants under Wis. Admin. Code ch. NR 407.



Figure 2 Project summary map



## **Water**

Rainy River has applied for water permits for the County Site only, but many of the aspects of the permits could be applied to the Lakehead Site if the Commission selects that site. There are wetlands and surface water bodies that could be affected at either site or along either site's water pipeline, natural gas pipeline, or electric transmission line. Rainy River does not propose to construct any new wells or use surface water as a source of water supply, rather it proposes to obtain its water from the existing SWL&P water supply system.

Storm water runoff would be controlled by a system of ditches and a sedimentation pond that would be installed at either site. The sedimentation pond would allow sediment to settle before the water is discharged to the Nemadji River. Such storm water discharges would be subject to a determination of the applicability of a Wisconsin Pollutant Discharge Elimination System (WPDES) general permit for storm water management. That determination would require that DNR evaluate the adequacy of Rainy River's site grading and erosion control plan.

## **Vegetation, wildlife and endangered and threatened species**

Both the County and Lakehead Sites have a mix of wetland and upland wildlife habitat. Vegetation consists primarily of wetland grasses and sedges, water-tolerant trees and shrubs like alder, and disturbance-tolerant plants. Prominent species are those associated with disturbance area habitats. Both sites have been disturbed by either previous industrial development or existing electric transmission rights-of-way. Wetland loss will occur at both sites. Accordingly, wetland mitigation by replacement of wetlands can be employed to reduce overall impact associated with the loss.

Rare plant surveys were conducted in July 2002. Two special concern plant species were discovered on the County Site, however, only one species is found within the grading limits of the project. Three special concern plant species were found within the grading limits of the Lakehead site. In order to avoid impacts to these species, avoidance or special mitigation measures may need to be employed.

## **Wetlands**

This project would result in the destruction of 4 acres of wetlands at the County Site and 12 acres of wetlands at the Lakehead Site. Wetlands loss can be mitigated, to some extent, by the creation of new wetlands at a ratio of 1.5 acres new to 1 acre destroyed.

## **Special construction issues**

Because the soils in the project area are very susceptible to erosion, construction in areas with steep slopes can lead to environmental impacts. Both sites have areas with steep slopes. The slopes on the Lakehead Site are associated with Newton Creek. The creek is highly polluted and does not support aquatic life. These slopes would be affected only on the northwest corner of the plant boundary. The County Site has a high risk of impact to slopes and natural resources along the Nemadji River. The slope face supports an important environmental corridor in the area. Construction on the County Site could be accomplished with

limited impact if a carefully designed Construction and Mitigation Plan (CMP) is prepared, approved prior to construction, and rigorously followed during construction.

## **Land use**

The project appears to be consistent with local land use plans as both sites are located in or adjacent to existing industrial development in the city of Superior. An application for a zoning change from suburban to M2, heavy manufacturing for the County Site was approved by the Superior City Council on July 2, 2002. The Lakehead Site is also zoned M-2, heavy manufacturing, by the city of Superior, and no zoning change would be required if the Commission selects that site.

## **Local community services**

The power plant facility is expected to be self-sufficient except for emergency services. Fire suppression water could be obtained from the Lakehead Pipeline Company's existing fire protection system through an extension of an underground water pipeline, or from the existing SWL&P water supply system. Local emergency services would appear able to handle the new facility at either site without adverse impacts to their budgets or abilities to function as they do now.

## **Roads**

Stinson Avenue and USH 2 are currently heavily used roads and experience significant truck traffic. Access to the County Site during construction and operation of the plant would be via 31<sup>st</sup> Avenue East. Access to the Lakehead Site would be via Stinson Avenue to East 11<sup>th</sup> Street. There would be one permanent access driveway to either site, and Rainy River would repair damage to any adjoining roads as necessary after construction.

## **Noise**

Noise from the proposed plant is estimated to increase sound levels at residences near the proposed sites. These increases would occur during the periods when the plant is running. The sound from the proposed power plant would be typical of industrial activity. The plant would probably operate only during daytime peak electricity demand. The estimated changes in ambient noise levels (during plant operation) will be greater at residences near the Lakehead Site where sound levels are expected to increase from 10 to 12 dBA and 14 to 15 dBC. Ambient sound level increases for residences near the County Site will range from 3 to 4 dBA and 7 to 12 dBC.

## **Visual impact**

The new plant would be a new feature in the local visual landscape, which would be visible from local roads and from the Nemadji River if the County Site is selected. The plant would be somewhat visible from Stinson Avenue if the Lakehead Site is selected. The 130-foot tall exhaust stack would be the tallest feature on the site.

## **Historic properties**

While there are historic and archeological resources in the area of the project, none of these resources appear to be on either power plant site or in the rights-of-way of any of the connecting facilities. Site-specific studies were conducted in accordance with the recommendation from the Wisconsin Historical Society (WHS). The WHS reviewed these studies and has indicated that no follow-up surveys are needed.

## **Connecting facilities**

There would be a new 115 kV electric transmission line, natural gas pipelines, and water supply pipelines associated with the new power plant, regardless of site. The electric transmission connection would be approximately 3,930 feet in length if the County Site is selected, and 1,030 feet in length if the Lakehead Site is selected. While no new natural gas pipeline facilities would be required if the County Site is selected, a new natural gas pipeline approximately 700 feet in length would be necessary from the existing SWL&P pipeline to the project site if the Lakehead Site is selected. The County Site water line would extend along 31<sup>st</sup> Avenue East from the proposed site to the intersection with East 5<sup>th</sup> Street. The Lakehead water line would extend from the site along 26<sup>th</sup> Avenue East to East 11<sup>th</sup> Street.

## **Commission Decisions**

The Commission, in reviewing Rainy River's application for a CPCN, will decide, among other items, whether to build the plant, and where to build the plant. If it approves the plant, it would also determine whether to impose any conditions on the construction of these facilities.